



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,002	01/02/2001	Kenji Nakamura	15162/03050	9833
24367	7590	06/03/2004	EXAMINER	
SIDLEY AUSTIN BROWN & WOOD LLP			SELBY, GEVELL V	
717 NORTH HARWOOD			ART UNIT	
SUITE 3400			PAPER NUMBER	
DALLAS, TX 75201			2615	

8
DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/753,002

Applicant(s)

NAKAMURA, KENJI

Examiner

Gevell Selby

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/4/04 have been fully considered but they are not persuasive.

Examiner's Response:

The applicants contend that the proposed combination of Higashino and Muramatsu does not disclose or suggest all the limitations of claims 1-10, more specifically the limitation of "a creator for creating distance data of the unmeasurable region based on the distance data of the measurable region among the plurality of distance measuring regions and the spacing calculated by said calculator." The Examiner respectfully disagrees.

The applicants agreed the Higashino reference teaches, with respect to the distances unmeasurable regions, to use of a default distance value rather than the use of measurable distances.

The unreliable or unmeasurable distance regions in the Higashino reference were found in cases where "the output of the LED is too small or the object is located too far away to identify accurately the position of the spectral center of the image (see column 7, lines 47-51)."

The Muramatsu reference does teaches the use of distance data of a measurable region to create distance data of an unmeasurable region, because the distances beyond the threshold value are distances of unmeasurable regions. The threshold is set to coincide with focal length of the camera (see column 5, lines 40-59); therefore, any region beyond the threshold is located too far away to identify accurately the position of the center of the image and unmeasurable. The

Art Unit: 2615

combination of Higashino and Muramatsu as well as Higashino and Muramatsu and Tanaka does disclose or suggest all the claimed limitations.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 - 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677.**

In regard to claim 1, Higashino, US 6,330,055, discloses a distance measuring device comprising:

“a distance measuring sensor (see column 2, lines 22-25) for measuring a plurality of regions of an object region and outputting measurement data (see column 3 lines 38-43);

a detector for detecting an unmeasurable region within the plurality of measurement regions based on the measurement data output from said distance measuring sensor (see column 6, lines 23-27);

[The judging means is the detector for detecting an unmeasurable region, area. The unmeasurable area is where output of the LED is too small or the object is located too far away to identify accurately the position of the spectral center of the image, see column 7, lines 47-51.]

Higashino, US 6,330,055, uses a default value when an unmeasurable region is detected, so it lacks:

a calculator for calculating a spacing on the object corresponding to the unmeasurable region detected by said detector; and

a creator for creating distance data of the unmeasurable region based on the distance data of the measurable region among the plurality of distance measuring regions and the spacing calculated by said calculator.

Muramatsu et al., US 5,563,677, discloses an auto focusing apparatus with a distance measuring device comprising:

a calculator for calculating a spacing on the object detected by said detector (see column 6, lines 13-20); and

[It is inherent that there is a calculator for to calculate the spacing and depth of the two measurable points.]

a creator for creating distance data of a region based on the distance data of the measurable region among the plurality of distance measuring regions (see column 5, lines 64-67 and fig 5, steps 1 and 2) and the spacing calculated by said calculator (see column 6, lines 13-20).

The measuring device of Higashino, US 6,330,055, could be modified to use the method of Muramatsu et al., US 5,563,677, (see column 5, line 60 to column 6, line 20 and figure 5) to generate distance measurement of the unmeasurable region by using the calculator and creator instead of using a default value. Muramatsu et al., US 5,563,677, uses this method to provide an auto focusing apparatus which can reliably prevent the

Art Unit: 2615

focus from deviating greatly relative to an object for which focusing will occur (see column 2, lines 11-15).

It would have been obvious to a person skilled in the art at the time of invention to modify Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, to have:

a calculator for calculating a spacing on the object corresponding to the unmeasurable region detected by said detector; and

a creator for creating distance data of the unmeasurable region based on the distance data of the measurable region among the plurality of distance measuring regions and the spacing calculated by said calculator

in order to prevent the focus from deviating greatly relative to an object for which focusing will occur.

In regard to claim 2, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses a distance measuring device according to claim 1 wherein,

“said detector detects the unmeasurable region by determining a reliability of the distance data output from the distance measuring sensor (see Higashino: column 6, lines 23-33).”

In regard to claim 3, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses a distance measuring device according to claim 1 wherein,

“said creator creates the distance data of the unmeasurable region based on the distance data of the measurable regions adjacent to the unmeasurable region (see Muramatsu: column 6, lines 13-20).”

[Figure 3a illustrates three regions (e2, e3, and e4) in the unmeasurable region beyond the threshold value and distances of the two adjacent regions, e1 and e5, are used to create the distance data for the unmeasurable region.]

In regard to claim 4 and 5, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563, 677, discloses a distance measuring device according to claim 3 wherein,

“said creator creates the distance data of the unmeasurable region based on a distance difference of the measurable regions adjacent to both sides of the unmeasurable region” and “determines whether or not the distance data of the unmeasurable region is created by comparing the distance difference of the measurable regions to a specific value (see column 5, lines 65-67 and column 6, lines 13-20).”

[The creator compares the distance difference of each of the regions to find the closest point. Then it uses the distance differences to determine if the points are at the same depth.]

In regard to claim 6, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses the distance measuring device of claim 1, wherein,

“said creator determines whether or not the distance data of the unmeasurable region is created by comparing the spacing of the unmeasurable region calculated by said calculator to a specific value (see column 6, lines 13-20).”

[The creator determines whether to create the new data measurement, D_o , from the measurable points on each side comparing the distance between the two points to a predetermined value to see if they are close enough.]

In regard to claim 7, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses the distance measuring device of claim 1, further comprising:

“a luminance calculator for calculating a luminance of the distance measuring regions, and wherein said creator determines whether or not the distance data of the unmeasurable region is created in accordance with the difference in the luminance of the unmeasurable region and the luminance of the measurable regions (see Muramatsu: column 6, lines 20-40).”

[Contrast or intensity of reflection can be used in the weighted average.]

In regard to claim 8, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses the distance measuring device of claim 1, further comprising:

“a region selector for selecting the distance measuring regions including at least three or more measuring points from among a plurality of measuring points (see Higashino: column 6, lines 29-33), and wherein said detector for detecting an unmeasurable region within the selected measuring regions (see Higashino: column 6, lines 23-27).”

In regard to claim 10, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, as explained in regard to claim 1 is also applicable here. Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses a camera provided with a distance measuring device (see Higashino: column 4, line 1-4) comprising:

“a distance measuring sensor (see Higashino: column 2, lines 22-25) for measuring a plurality of regions of an object region and outputting measurement data (see column 3 lines 38-43);

a detector for detecting an unmeasurable region within the plurality of measurement regions based on the measurement data output from said distance measuring sensor (see Higashino: column 6, lines 23-27);

[The judging means is the detector for detecting an unmeasurable region, area. The unmeasurable area is where output of the LED is too small or the object is located too far away to identify accurately the position of the spectral center of the image, see column 7, lines 47-51.]

a calculator for calculating a spacing on the object corresponding to the unmeasurable region detected by said detector (see Muramatsu : see column 6, lines 13-20); and

[It is inherent that there is a calculator for to calculate the spacing and depth of the two measurable points.]

a creator for creating distance data of the unmeasurable region based on the distance data of the measurable region among the plurality of distance measuring regions (see Muramatsu: see column 5, lines 64-67 and fig 5, steps 1 and 2) and the spacing calculated by said calculator (see column 6, lines 13-20);

a focus adjuster for adjusting the focus of a photographic lens (see Muramatsu: column 2, line 30-37);

and a controller for recognizing a photographic object corresponding to the distance data of the measurable region and the created distance data of the unmeasurable region lines and for controlling said focus adjuster in accordance with the recognition result (see Muramatsu: column 4, line 62 – column 5, line 19).”

3. **Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, as applied to claim 1 above, and further in view of Tanaka et al., US 6,433,824.**

In regard to claim 9, Higashino, US 6,330,055, in view of Muramatsu et al., US 5,563,677, discloses a camera provided with a distance measuring device (see Higashino: column 4, line 1-4) comprising:

“a distance measuring sensor (see Higashino: column 2, lines 22-25) for measuring a plurality of regions of an object region and outputting measurement data (see column 3 lines 38-43);

a detector for detecting an unmeasurable region within the plurality of measurement regions based on the measurement data output from said distance measuring sensor (see Higashino: column 6, lines 23-27);

[The judging means is the detector for detecting an unmeasurable region, area. The unmeasurable area is where output of the LED is too small or the object is located too far away to identify accurately the position of the spectral center of the image, see column 7, lines 47-51.]

Art Unit: 2615

a calculator for calculating a spacing on the object corresponding to the unmeasurable region detected by said detector (see Muramatsu : see column 6, lines 13-20); and

[It is inherent that there is a calculator for to calculate the spacing and depth of the two measurable points.]

a creator for creating distance data of the unmeasurable region based on the distance data of the measurable region among the plurality of distance measuring regions (see Muramatsu: see column 5, lines 64-67 and fig 5, steps 1 and 2) and the spacing calculated by said calculator (see column 6, lines 13-20);

a finder for viewing the object region;

[It is inherent that the camera has a viewfinder.]

and a controller for recognizing a photographic object corresponding to the distance data of the measurable region and the created distance data of the unmeasurable region (see column 4, line 62 – column 5, line 19).”

The camera disclosed by Muramatsu et al., US 5,563,677, lacks,

“a display for displaying a range corresponding to each distance measuring region within the view of the finder;

and a controller for controlling display on said display in accordance with the recognition result.”

Tanaka et al., US 6,433,824, discloses a camera comprising,

“a display for displaying a range corresponding to each distance measuring region within the view of the finder (see column 7, lines 5-10);

and a controller for controlling display on said display in accordance with the recognition result (see column 7, lines 33-56).”

It would have been obvious to a person skilled in the art at the time of invention to modify Muramatsu et al., US 5,563,677, in view of Tanaka et al., US 6,433,824, to have:

“a display for displaying a range corresponding to each distance measuring region within the view of the finder;

and a controller for controlling display on said display in accordance with the recognition result”

in order to display the picture processes by the camera on the LCD screen (see column 7, lines 5-10).

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2615

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 703-305-8623. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's primary, Ngoc-Yen Vu can be reached on 703-305-4946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gvs



NGOC-YEN VU
PRIMARY EXAMINER